

AUTHOR GUIDELINES
For Manuscripts and Extended Abstracts for
Seventh Walnut Research Symposium
August 1, 2011
Madison, WI

The Walnut Research Symposium has been hosted by the Walnut Council approximately every seven years since 1966. Invited oral presentations and accompanying manuscripts are expected to be state-of-the-art reviews with emphasis on new findings and practices covering the last 10 to 15 years. Primary audience for presentations and papers are forest managers and landowners establishing and managing black walnut or butternut in plantings and natural stands. Papers in the proceedings will serve as important reference documents for answering questions from growers and landowners for the next seven years.

See the instructions below and attached sample manuscript for proper formatting of your paper. If you have questions about how to prepare your manuscript, please email Jerry Van Sambeek at jvansambeek@fs.fed.us or call him at 573-875-5341 Ext. 233. Authors of oral presentations are expected to submit a draft manuscript before or at the symposium ready for peer-review that covers the research discussed in their presentation. Authors of poster papers are expected to submit either a descriptive extended abstract or research note with an option to submit a manuscript for peer-review with approval of the proceedings editor(s).

The symposium proceeding is to be published as a U.S. Forest Service, Northern Research Station General Technical Report, and its contents will be permanently posted on the publicly available <http://www.treesearch.fs.fed.us> website. Manuscripts, research notes, and extended abstracts to be included in published proceedings will need to receive at least two technical reviews arranged either by proceedings editor or by author with prior approval of selected reviewers by the editor. Authors are responsible for addressing comments made during the peer-review process for clarity, flow, and brevity. In addition to peer-review, all papers in symposium proceedings will receive editorial review by Northern Research Station Production Services after the entire proceeding has been submitted.

MANUSCRIPT ASSEMBLY

Draft manuscripts, research notes, and extended abstracts should be typed in Bookman Old Style or Bookman 10-point font on letter-size (8.5 x 11 inch) page with 1-inch margins on all sides as a MS Word document. Number the pages (bottom center) consecutively throughout the manuscripts. Hard carriage returns should be used only at the ends of paragraphs and headings. Insert one blank line between paragraphs and do not indent paragraphs. Do not manually hyphenate words that end a line and begin a new line. Each reference, table and figure must be mentioned in the text. Because proceedings will be published on-line as portable document files (pdf's), **color figures are encouraged**. Manuscripts should be assembled and submitted as a Word document in this order:

- | | |
|---------------------------------|----------------------|
| 1. Title and Author Information | 8. Acknowledgements |
| 2. Abstract | 9. Literature Cited |
| 3. Introduction | 10. Appendices |
| 4. Study Areas | 11. Tables |
| 5. Methods | 12. Figure Captions, |
| 6. Results | 13. Figures |
| 7. Discussion | |

Research notes (up to 3 single-spaced pages) and extended abstracts (1 page) should be prepared without an abstract or headings except for Acknowledgements and Literature Cited. The Production Staff of the Northern Research Station will convert the author-prepared single column format (see attached example) to double column format. See the proceedings from the Sixth Walnut Research Symposium (<http://nrs.fs.fed.us/pubs/1988> for expected final format.

The manuscript should be submitted electronically before or at the symposium on a CD along with two double-spaced hard copies to be used for peer-review (if submitted as email attachments, editor will make the copies). Please use the last name of the first author and one keyword to name the Word file, tables, and figures. If submitted as an attachment to an email, please enter 'Seventh Walnut Research Symposium Submission' in the subject line.

TITLE, AUTHOR NAME(S) and ABSTRACT

Center and boldface the title typed in all capitals. Make it as clear and as brief as possible. Titles exceeding two lines will be revised by proceedings editor. Leave two blank lines below the title, then center and boldface author name(s). Use one footnote to give working title followed by author's initials in parenthesis, company affiliation, and mailing address for each author. As in the sample manuscript, also give the telephone number and email address for the corresponding author who can answer questions about the paper after it is published. If word processing software does not automatically place footnote at the bottom of the page 1, then draw a 2 inch line approximately 2 inches from bottom of the page and place author information on the next line.

Three blank lines below the author name(s), type ABSTRACT followed by a period and a dash (two hypens) and then text without a space. Limit the abstract to 100 to 200 words using a 5-inch line of text. Write what is generally called an informative abstract that emphasizes the purpose, results, and conclusions (see attached sample) rather than a descriptive abstract. That is, say "Walnut seeds could not be germinated after they were soaked for more than 16 hours in ethanol at 10° C." rather than "Article describes effects of soaking in ethanol on subsequent germination of walnut seeds." Emphasize results of studies and their practical applications. Leave two blank lines before starting the text for the introduction.

HEADINGS

Leave one blank line before first-, second-, and third-level headings and one blank line after. Keep headings to less than 3.2 inches in length. First-level headings for most manuscripts will be study areas, materials and methods, results, discussion, conclusions, acknowledgment, literature cited, and appendices. If included, the heading for introduction will be removed by proceedings editors. Type manuscript headings in the following typographical style:

FIRST-LEVEL HEADING (centered, all caps, bold)

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LISTS

Use Arabic numbers with periods for paragraph enumerations. Sample:

1. Item 1. If the list item is longer than one line indent to line up the second line of text with the first line as shown here.
2. Item 2., and
3. Item 3.

STYLE

Numerals: Express in numerals any number associated with a unit of measurement, time, or money (for example: 7 m, 0.25 inch, 12 percent, 6 hours, 5-day week, 6-year-old child, \$3, seven states, five replicates). Numerical values should be expressed with three or fewer significant figures and should not exceed one figure more than the precision of collected samples or accuracy of the measurements themselves.

Metric verse English units: You can use which system you prefer, but do not use or show both. The proceedings will contain an appendix listing conversions for all metric units. Put unit names in lower case, even those derived from a proper name (meter, kilogram, liter). Leave a space between numeral and units or its symbol (45 milliliters or 45 mL, 20 °C). Do not use the plural of unit symbols (45 lb, 12 kg) but do use the plural for written unit names (45 pounds, 10 kilograms). Indicate the product of two or more units with units separated by a slash (45 lb/yr). Write fractions of a number as decimals and not fractions (0.5 pounds, 0.75 lb).

Abbreviations: Except for dbh, °F or °C, few if any abbreviations should be used in the text. Other acceptable abbreviations for use in parenthetical information and in tables are those for scientific units such as ft or m, in or cm, in² or cm², lb or kg, pt or L, ac or ha, yr, and combinations such as lb/yr or ft²/yr. Abbreviations for chemicals should be shown in parenthesis after first mention of each chemical, i.e., nitrogen (N). For the degree symbol with temperature use the insert, symbol, character code 176 feature in Microsoft Word.

Common verse scientific names: Abstracts and manuscript text should be written preferably with common names. At the first mention for each species within the body of the paper, type the Latin genus species name in italics followed by authorities and set binomials off in parentheses. If many species are mentioned, you may include common and scientific names in a table with other information or add separate list as a table in appendix . After the first common name, add (see Table # or Appendix Table # for list of common and scientific names).

Cultivar or variety names: Cultivar or variety names should be placed inside single quotes, i.e., *Juglans nigra* var. 'Kwik Krop' or seedlings of 'Purdue #1' outperformed ...

Use the word "significant" or "significantly" sparingly, if at all, when describing treatment differences. Unless otherwise indicated, differences discussed in results are supported by statistical analyses at the probability level indicated in the methods section.

Dates: Express dates consistently in order of day(s) month year or year month day without commas and month spelled out, for example, 31 July – 2 August 2011 or 2011 August 1.

Percent: Spell out the word "percent" rather than using the symbol "%" in the text including percentages set off in parentheses.

Product identification: When sole-source products and software, including statistical packages, are identified, parenthetically identify the company, city, and state.

States: Follow the U.S. Postal Service style of two-letter abbreviation for States when used with the name of a town. Spell out the State name when standing alone.

The proceedings editors will use the latest edition of the Government Printing Office Style Manual and the Council of Biology Editors Style Manual to resolve other style questions.

LITERATURE CITATIONS

All literature citations should be done in the ANSI style. Type each citation as if it is a paragraph, allowing the word processor to wrap at the end of each line. None of the lines should be indented. If there are more than four authors or editors, list the first three followed by 'and __ others' giving the number as two or more. Use two-letter abbreviation for States otherwise do not abbreviate source information. Use only initial and period for first and middle name of all cited authors without a space between them. Hard carriage returns should only be used at the end of each citation. Insert a blank line after each citation.

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Use the author-date method to refer to literature in the text. For example, “More rapid runoff may result in increased peak flows (Brown 1980). Later experiments by Miller (1980) showed....” If several references are listed as support for a statement, list the names chronologically: (Endres 1972, 1978, McClure et al. 1979, Adams 1980) and separate each with a comma. In text, use the present tense to cite previously established knowledge. For example, “High viscous effects inhibit eddying motion (Roberson and Crow 1990).”

With two exceptions, only published material should be included in the literature cited. Manuscripts accepted for publication may be included with the year and volume number in which you expect the article to appear. Remember that there is little point in listing a reference that no reader is likely to be able to obtain.

Reference to unpublished data and personal communications should be avoided whenever possible. If it must be done, add source parenthetically, i.e. (data on file with the Department of Forestry, University of Georgia, Athens, GA).

ACKNOWLEDGMENT

Type the acknowledgment, if any, after the last paragraph of your paper, just before the Literature Cited section. Remember to acknowledge assistance of cooperators and external sources of funding that supported your paper by grant number and agency.

TABLES

Number tables consecutively with Arabic numerals and mention each in the text. When used in a sentence, Table is capitalized. When referred to parenthetically, it would be (table 1). Follow number of table with a period, a dash, and then caption in italics. Set width of table at 3.2 or 6.6 inches. Because proceedings papers will be made available on the web, do not prepare tables in “landscape” mode. Captions should be typed directly above the table. Begin each table caption like this:

Table 1.—*Table should be able to stand alone with caption in italic.*

If possible, use the insert table function in Microsoft Word to create and embed tables in the text. Enter a solid line above and below the contents of the table. All columns should have headings; capitalize only the first word and proper nouns. If using letters to show statistical groupings, leave a space between numerical values and letters. Table footnotes are lower case letters that start over with each table and should appear immediately after the line after table contents.

FIGURES / PHOTOS

Number figures with Arabic numerals in the order they are mentioned in the text. Charts, maps, drawings, and photographs are called “figures”. When used in the text as a sentence, Figure 1 is written out; when referred to parenthetically, it would be (fig. 1) or (figs. 1 and 2).

Put figure captions on a separate page after the tables. Avoid putting footnotes in a figure--include the information in the caption. Follow the figure number with a period, a dash, caption in italics, and then appropriate credit line like this:

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2. Fully spell out the names of journals in Literature Cited, i.e. Annual Review of Ecological Entomology, Wildlife Society Bulletin, Journal of Forestry, etc.
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5. In tables with columns, line up the decimal points on numerical values.
6. Use dbh, not d.b.h., DBH, or D.B.H. for diameter at breast height.
7. Use ‘percent’, not % in text although % is okay in a table or figure.
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MULTIRESOURCE INVENTORIES: TECHNIQUES FOR ESTIMATING BIOMASS

Noel N. Cost and Joe P. McClure¹

ABSTRACT.--Multiresource inventory data of Minnesota are used to develop a technique for estimating biomass on a statewide basis. The model describes the kinds and sources of data needed to predict standing aboveground biomass, and provides definitions of area base and biomass components. The results represent the distribution and quantity of biomass on commercial forest, noncommercial forest, and nonforest areas.

Traditionally, State and regional forest inventories have been designed to estimate the volume of wood in trees 5.0 inches and larger, diameter at breast height (dbh), and from a 1-foot stump to a 4.0-inch top diameter outside bark growing on commercial forest land. These merchantability stands are no longer adequate for assessing the resource. Estimates of crown volume are needed for nutrient cycling studies and wildlife habitat evaluations, and to determine site productivity and forest fire hazards (Phillips and Cost 1997).

BIOMASS MODEL

To develop a biomass model, Renewable Resources Evaluation (RRE) expanded the multiresource inventory across all areas in Minnesota and made maximum use of established inventory methods. Thus, RRE could use its existing computer and data management system, maps, aerial photographs, coding systems, and field crews.

BIOMASS DEFINITIONS

As stated in *A Dictionary of Biology*, nomenclature creates a major problem in quantifying biomass on a statewide basis (Abercorbie et al. 1964). Notes in some of the more recent research studies highlight the difficulties in exchange of data due to the diverse biomass applications (Beasley 1979, Hitchcock and McDonnell 1979, Vasievich and Hobrla 2001).

Definitions for understory vegetation and tree foliage were taken from a vegetative profile study (Cost 1979, McClure 1979). Terms from the two studies blend perfectly so that a complete description of total standing biomass can be obtained.

Forest Land

Commercial Forest Land

Forest land at least 1 acre in size and producing, or capable of producing, crops of industrial wood and not withdrawn from timber utilization.

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Unproductive Forest Land

Forest land is capable of producing 20 cubic feet per acre of industrial wood under natural conditions because of adverse site conditions. Unproductive forest land can be highly productive for wildlife management (Adams 1947, Sampson 1980, Bull 1981).

Total Biomass

The 37.4 million acres of commercial forest, noncommercial forest, and nonforest in Florida support over 2.5 trillion pounds of green biomass. Of the 2.5 trillion pounds of biomass, 74 percent is in wood and bark, 8 percent is in tree foliage, and 18 percent is in other vegetation. The percentage of biomass supported by commercial forest, noncommercial forest, and nonforest uses is shown in Figure 1.

The quantity of biomass in each broad use category is highly dependent upon the acreage within the State as well as the concentration of material on these acres (fig. 1). In interpreting biomass quantities, therefore, it is helpful to know how many acres are in each category.

Species Groups

Table 1 shows the distribution of wood and bark associated with nonforest use, by selected species groups. Eastern white pine (*Pinus strobus* L.) is the leading pine and contains over half of the pine biomass.

Twenty-nine percent of the nonforest area consists of marsh and water, 21 percent improved pasture, 17 percent urban and other, 16 percent cropland, 13 percent rangeland, 3 percent idle farmland, and 1 percent other farmland (table 2).

ACKNOWLEDGMENT

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LITERATURE CITED

Abercrobie, M.; Hickman, C.J.; Johnson, M.L. 1964. A dictionary of biology. Chicago, IL: Aldine Publishing Co. 798 p. **(Book or monograph)**

Adams, L. 1947. Food habit of cow birds in relation to reforestation. *Journal of Wildlife Management*. 11(3): 281-282. **(Journal or periodical article)**

Beasley, R.S. 1979. Assessment of non-point source from forest practices. In: Research needs and problems in assessing impact of forest management practices on water quality and utility. Tech. Bull. 328. New York, NY: National Council for Air and Stream Improvement: 10-13. **(Chapter in book that is part of a series)**

Burns, R.M.; Honkala, B.H., tech. coord. 1999. *Silvics of North America. Volume 2, Hardwoods*. Agric. Handbk. 654. Washington, DC: U.S. Department of Agriculture, Forest Service. 877 p. **(Book in series with editors)**

Cost, N.D. 1979. Ecological structure of forest vegetation. In: Forest resource inventories; 1979 July 22-27; Fort Collins, CO: 29-37. **(Proceedings article, unidentified publisher)**

Hitchcock, H.C., III; McDonnell, J.P. 1980. Provisional forest biomass statistics for the 201-county Tennessee valley region. Tech. Note B38. Norris, TN: Tennessee Valley Authority. 8 p. **(Series)**

McClure, J.P.; Cost, N.D.; Knight, H.A. 1979. Multiresource inventories—a new concept for forest survey. Res. Pap. SE-191. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southeastern Research Station. 68 p. **(Series)**

Phillips, D.R.; Cost, N.D. 1997. Estimating the volume of hardwood crowns, stems, and the total tree. In: Pallardy, S.G.; Cecich, R.A.; Garrett, H.G.; and two others, eds. Proceedings, 11th Central Hardwood Forest conference; 23-26 March 1997; Columbia, MO. Gen. Tech. Rep. NC-188. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station: 198-215. **(Proceedings with proceedings editors)**

Sampson, D., Jr. 1980. Game bird distribution in upland oak savannas. Columbia, MO: University of Missouri. 88 p. Ph.D. dissertation. **(Thesis or dissertation)**

Vasievich, J.M; Hobrla, S.L. 2001. Great Lakes ecological assessment. Available: www.ncrs.fs.fed.us/epubs/index.html. Accessed 1 August 2010. **(On line publication)**

*****Insert Page Break between tables, figure legends page, and figures*****

Table 1.—Species, volume, height, dbh, and basal area for four study areas in Minnesota.

Study area	Species	Volume <i>Ft</i> ³	Height <i>Ft</i>	Dbh <i>In</i>	Basal area <i>Ft</i> ² / <i>ac</i>
Upper slope	Aspen	319	19.5	1.08	39.4
Upper slope	All ¹	--	--	1.04	42.6
Lower slope	Aspen	341	19.5	1.15	42.7
Lower slope	All	--	--	1.11	45.0

¹Includes aspen and all other species found on the site.

Figure 1.—Percentage of all forest holdings by size of landowner and forest tract in Minnesota.

